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ANTI-CANCER PROPERTY OF ACTIVE COMPOUNDS FROM PEANUT SKIN

Abirla Murugan¹, Sowmya*

¹Vels institute of science, technology and advanced studies, Chennai, Tamilnadu, 600117.

*Vels institute of science, technology and advanced studies, Chennai, Tamilnadu, 600117.

BACKGROUND

Peanut (*Arachis hypogaea*) is a common crop cultivated almost all the parts of the world which contains edible seeds with health benefits. Peanuts are rich source of protein, vitamins and minerals, whereas the shell and skin contains phenolic compounds, flavonoids, carotene etc. It has been reported that peanut contains an anti-cancer agent resveratrol. This work focuses on the Analysis of active compounds from peanut skin and to examine its anti-cancer property.

METHODS

Qualitative analysis of peanut skin using gas chromatography-mass spectrometry showed the presence of various medicinally active compounds like azulene, farnasene, bisabolene. The Protein is chosen as CBX3 (Chromobox protein homolog 3). The Protein is chosen based on its regulation and expression in patients with Non-small cell lung cancer obtained from PDB with ID 3TZD.

PRELIMINARY RESULTS

All the compounds analyzed showed a good binding potential in the range from -11.36 kcal/mol to 13.50 kcal/mol. Docking studies revealed that the compound Beta-bisabolene, a sesquiterpene from peanut skin had the highest binding score of -13.50kcal/mol and hence can be a potential anti-cancer drug among other compounds.

PRELIMINARY CONCLUSION

The interaction of the bioactive compounds from the peanut skin extract may results in blocking the activity of the protein CBX3 in formation of non small cell lung cancer cells.

KEYWORDS: Peanut skin, Anti-oxidant, cancer, In-Silico study